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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/485,662	08/31/2000	Jurgen Kockmann	P00 0316	2130

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BELL, BOYD & LLOYD, LLC
P. O. BOX 1135
CHICAGO, IL 60690-1135

EXAMINER
HOANG, THAI D

ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 09/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/485,662	KOCKMANN ET AL.	
	Examiner	Art Unit	
	Thai D Hoang	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *Application filed on 08/31/2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 August 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

The drawings are objected to because informalities:

Figure 1 does not show element 13 as disclosed on page 6, lines 26-27 and 34, page 7, lines 2 and 37. Also, elements in figure 1 lacks descriptive legends.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 5 is objected to because of the following informality: claim 5 does not have a period at the end of the claim.

Claims 3-7 and 10-11 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only and cannot depend from any other multiple dependent claim . See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Appropriate correction is required.

Specification

The disclosure is objected to because of the following informalities:

The headings were missing in the specification such as the background or related art of the invention, summary of the invention, and brief description of the drawings, etc...

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
(e) BACKGROUND OF THE INVENTION.
(1) Field of the Invention.
(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(f) BRIEF SUMMARY OF THE INVENTION.
(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(h) DETAILED DESCRIPTION OF THE INVENTION.
(i) CLAIM OR CLAIMS (commencing on a separate sheet).
(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-6 and 8-12 are rejected under 35 U.S.C. 102(e) as being unpatentable over Miyake et al, US Patent No. 5,903,618, hereafter referred to as Miyake.

Regarding claim 1, Miyake discloses a multimode radio communication system. Miyake teaches that the system comprises a base station 10 (fixed unit) which communicates with a plurality of terminals 18 (mobile unit) by radio (fig. 1); wherein the communication is transmitted in time-slots t_i (fig. 2, 4, 6-7) on a plurality frequencies f_i (fig. 2, 5-6). In addition, Miyake discloses that a spectrum spreading communication system is roughly divided into a direct spreading system and a spread spectrum frequency hopping (SSFH) system. While the direct spreading system is a system of spreading information in the form of frequency (spectrum) by a code having orthogonality, the SSFH system is a system of transmitting a signal by varying (hopping) its frequency as time passes. By selecting any one of preset frequencies at predetermined time, both the transmission and reception are performed. To do this,

information of the predetermined time and the preset frequencies must be held in each of the transmitting and receiving terminals. Since any frequency can be selected at the predetermined time, the communications corresponding to the usable number of frequencies can be performed at once; col. 4, line 51-col. 5, line 7 (Method for logging on a mobile unit (11) at a fixed station (1) for a transmission of data by radio, in which method the data are transmitted in time slots (Z_x) on a plurality of carrier frequencies (f_x) and the mobile unit (11) and the fixed station (1) change the carrier frequency (f_x) after a predetermined time period in accordance with a predetermined sequence, characterized in that the fixed station (1) broadcasts check data which indicate the position of the carrier frequency (f_x) of the current time slot (Z_x) in the predetermined sequence, and the mobile unit (11) determines (12) the position of the carrier frequency (f_x) of the current time slot (Z_x) in the predetermined sequence by means of the check data.)

Regarding claims 2-4 and 10-11: claims 3-4 depend on claim 1, claims 10-11 depend on claim 8 (assumed). Miyake teaches that if the transmitting terminal and the receiving terminal have the same frequency hopping timing (t_i) and the same frequency hopping pattern, it is possible to demodulate the transmitting signal at the receiving terminal. In order to execute a SSFH communication system, it is necessary to make the frequency hopping pattern of the transmitting terminal equal to that of the receiving terminal. Furthermore, Miyake discloses that the system is possible to set a plurality of frequency hopping patterns to the transmitting terminal and the receiving terminal. It, therefore, is necessary to transmit a parameter signal from the transmitting terminal to

the receiving terminal before the start of communication, the parameter indicating which frequency hopping pattern is selected; col. 5, lines 24-46 (the check data are transmitted automatically during a logging-on mode; one of a plurality of predetermined sequences is selected and the check data broadcast by the fixed station (1) continue to indicate which of the plurality of predetermined sequences is used by the fixed station (1); the predetermined sequences are determined (15) by means of an algorithm)

Regarding claim 5, Miyake teaches that the SSFH method is applied to the system. SSFH system is a system of transmitting a signal by varying (hopping) its frequency as time passes. By selecting any one of preset frequencies at predetermined time, both the transmission and reception are performed. To do this, information of the predetermined time and the preset frequencies must be held in each of the transmitting and receiving terminals. If the transmitting terminal and the receiving terminal have the same frequency hopping timing (t_i) and the same frequency hopping pattern, it is possible to demodulate the transmitting signal at the receiving terminal. In order to execute a SSFH communication system, it is necessary to make the frequency hopping pattern of the transmitting terminal equal to that of the receiving terminal; col. 4, line 65 – col. 5, line 4; col. 5, lines 24-30 (it is sensed which of the carrier frequencies (f_x) is subject to interference, and during the logging on of the mobile unit (11) a carrier frequency (f_4, Fig. 4) which is prescribed by the predetermined sequence is used (P_2) if this carrier frequency (f_4, Fig. 4) of the predetermined sequence is passed over (P_1))

Regarding claims 6 and 12, claims 6 and 12 depend on claim 1 and 8 respectively (assumed). Miyake discloses that the system comprises the same digital

communication system as a conventional two-way communication system and a spectrum spreading communication system using an ISM (Industrial Scientific Medical) band. Therefore, it indicates that the 2.4 GHz ISM frequency band is used for transmission.

Regarding claim 8, Miyake discloses that the system comprises a base station 10 (fixed station), and a plurality of terminals 18 (mobile stations), wherein the transmission between the base station 10 and the terminals 18 in time slots t_i on a plurality of frequencies f_i ; fig. 1-2. The base station 10 comprises a control circuit 16 transmitting a signal of transmitting a signal by varying (hopping) its frequency f_i as time passes. By selecting any one of preset frequencies at predetermined time, both the transmission and reception are performed. To do this, information of the predetermined time and the preset frequencies must be held in each of the transmitting and receiving terminals; col. 4, line 65 – col. 5, line 4. Furthermore, Miyake teaches that the base station 10 comprises a transmitter 12 for broadcasting the frequency f_i changing after a predetermined time period output from the control circuit 16. The signals broadcasted from the base station 10 comprises a parameter signal (check data) to indicate the frequency of the current time slot in the predetermined sequence in order to perform frequency hopping function between the base station 10 and the terminal 18; col. 5, lines 37-46.

Regarding claim 9, Miyake discloses that the terminals A and B are operated in response to a sync signal S supplied from the base station. A peer-to-peer (fig. 4, A to B) communication is performed using a time slot other than a paging time slot, the

terminals can be operated as a normal pager after the peer-to-peer communication is started; col. 7, lines 50-54. In addition, Miyake teaches that the system is necessary to transmit a parameter signal from the transmitting terminal to the receiving terminal before the start of communication, the parameter indicating which frequency hopping pattern is selected; col. 5, lines 43-46 Therefore, it indicates that the system disclosed by Miyake comprises a switch for switching two modes of time slot (the fixed station (1) has a switching device (14) for switching over between a logging on mode and a normal transmission mode, and the check data are broadcast automatically if the switching device (14) is switched to the logging-on mode).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyake et al, US Patent No. 5,903,618, in view of FCC rule, title 47—Telecommunication, Chapter I: Federal Communications Commission (FCC), Part 15--Radio Frequency Devices (http://www.access.gpo.gov/nara/cfr/waisidx_02/47cfr15_02.html.), hereafter referred to as Miyake and FCC respectively.

Regarding claim 7, Miyake does not disclose the system operates with at least 75 carrier frequencies and in particular 96 carrier frequencies. However, these

frequencies band are suggested by The Federal Communications Commission (FCC) rule under part 15. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the FCC rule into the system in order to adapt with conventional wireless devices which use ISM frequencies band in the market and to avoid an interference with other wireless devices.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art with respect to the application:

US Patent No. 5,818,820, Anderson et al disclose a method and system for data link expansion or contraction using spread spectrum TDMA communication.

US Patent No. 6,272,121 B1, Smith et al disclose a method of spread spectrum communication system using DECT protocol.

US Patent No. 5,787,076, Anderson et al disclose a method of multi-mode TDMA spread spectrum communication system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D Hoang whose telephone number is (703) 305-3232. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Thai Hoang

CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 9/2/03